Yang Chen

Personal information

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Education

PhD of Atmospheric Science, University of Michigan, Ann Arbor, MI, 8/2006
Dissertation: Aerosol indirect effects on clouds and global climate

Master of Environmental Engineering, Tsinghua University, Beijing, China, 7/2000

Bachelor of Environmental Engineering, Tsinghua University, Beijing, China, 7/1997

Research and teaching experience

2006-Current
Postdoctoral Research Fellow, Jet Propulsion Lab, Caltech, Pasadena, CA

2006
Postdoctoral Research Fellow, University of Michigan, Ann Arbor, MI

2000-2006
Graduate Student Research Assistant, University of Michigan, Ann Arbor, MI

1997-2000
Graduate Student Research Assistant, Tsinghua University, Beijing, China

1998
Teaching Assistant, Tsinghua University, Beijing, China

Research interest

- Model simulation of global aerosol indirect radiative forcing
- Estimating global aerosol direct radiative effect by using satellite observations
- Effects of biomass burning emissions on global climate and regional air quality
- Microphysical mechanisms of aerosol modification on radiative properties of warm cloud and ice cloud

Publications

Chen, Y., Q. Li, R. Kahn, and J. Randerson, Quantifying global aerosol direct radiative effect with MISR observations, submitted to *Journal of Climate*, 2007

Chen, Y., Aerosol indirect effects on clouds and global climate, *PhD dissertation*, University of Michigan, 2006

Chen, Y. and J. E. Penner, Uncertainty analysis for estimates of the first indirect aerosol effect, *Atmos. Chem. Phys.*, **5**, 2935-2948, 2005.

Penner, J. E., X. Dong, and **Y. Chen**, Observational evidence of a change in radiative forcing due to the indirect aerosol effect, *Nature*, **427**, 231-234, 2004.

Chen, Y., L. Fu, and J. Hao, Review on the mechanism and law of urban photochemical air pollution, *Shanghai Environmental Sciences*, **19**, 167-170, 2000.

Talks and presentations

Chen, Y., Q. Li, and R. Kahn, Quantifying aerosol direct radiative effect with MISR observations, Invited talk, June 5th 2007, California Institute of Technology, Pasadena, CA.

Chen, Y., Q. Li, R. Kahn, E. Lyons, and J. Randerson, Global transport and radiative forcing of biomass burning aerosols. Third GEOS-Chem user's meeting, April 2007, Harvard University, Boston, MA.

Chen, Y. and J. Penner, Aerosol indirect effects on clouds and global climate, TCMA seminar, October 2006, NASA Jet Propulsion Laboratory, Pasadena, CA.

Chen, Y., Aerosol indirect effects on clouds and global climate, PhD dissertation defense, July 2006, University of Michigan, Ann Arbor, MI.

Wang, M., **Y. Chen**, N. Andronova, and J. E. Penner, Comparison of the flux of water into the stratosphere on aerosols, in cirrus clouds, and as vapor, 2006 AGU Joint Assembly, May 2006, Baltimore, MD.

Chen, Y., and J. Penner, Aerosol Indirect Effect: observational Evidence and Uncertainty Analysis, March 28th 2006, California Institute of Technology, Pasadena, CA.

Feng, Y., J. Penner, and **Y. Chen**, Direct and indirect effects of nitrate and ammonium aerosol: A column model study, 86th AMS Annual Meeting, January 2006, Atlanta, GA.

Chen, Y. and J. E. Penner, Uncertainty analysis for estimates of the first indirect aerosol effect. 2005 AGU fall meeting, December 2005, San Francisco, CA.

Feng, Y., J. Penner, and **Y. Chen**, Global Modeling of Nitrate and Ammonium: Implications on Direct and Indirect Aerosol Forcing, 2005 AGU fall meeting, December 2005, San Francisco, CA.

Chen, Y., J. E. Penner and X.Dong, Understanding the effects of uncertainties in ice processes, entrainment and updraft velocities on the relationship between cloud optical depth and liquid water path at the NSA and SGP sites, 14th Atmospheric Radiation Measurement (ARM) Science Team Meeting, March 2004, Albuquerque, NM.

Delene D. J., X. Dong, **Y. Chen**, M. Poellot, and J. E. Penner, Analysis of the aerosol-cloud interactions from aircraft, surface measurements, and cloud parcel model during the March 2000 IOP at the ARM SGP site, 14th Atmospheric

Radiation Measurement (ARM) Science Team Meeting, March 2004, Albuquerque, NM.

Professional affiliations

- American Geophysical Union (AGU)
- American Meteorological Society (AMS)
- The Nature Conservancy
- National Geographic Society (NGS)

Activities and honors

2005
University of Michigan travel grant for American Geophysical Union 2005 Fall Meeting

2004
University of Michigan Chinese Student and Scholar Association, executive committee member

1992-1997
Excellent Student Scholarship for 5 consecutive years at Tsinghua University

Numerical modeling and computer skills

Scientific Modeling
Chemical transport model, Cloud nucleation parcel model, Energy Balance Model, GCM, SCM, radiative transfer model

Computer Languages
Fortran, C++, Matlab, Parallel computer language (MPI), HTML

Visualization
IDL, GRADS, CDAT, EXCEL, PowerPoint, Origin, PhotoShop, Dreamweaver, FrontPage, Matlab